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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/621,411

07/18/2003

Fujiaki Nose

XA-9897

2818

181

7590

11/16/2004

MILES & STOCKBRIDGE PC
1751 PINNACLE DRIVE
SUITE 500
MCLEAN, VA 22102-3833

EXAMINER

WILSON, ALLAN R

ART UNIT

PAPER NUMBER

2815

DATE MAILED: 11/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/621,411	NOSE ET AL.	
	Examiner	Art Unit	
	Allan R. Wilson	2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 8-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-7 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>0703</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3 and 5 are rejected under 35 USC § 102(b) as being anticipated by Park et al. (“Park”) U.S. Patent No. 5,436,500.

With regards to claim 1, Park illustrates in figures 2-4, particularly figure 4, (entire document) a semiconductor chip 14 having a semiconductor element and a plurality of electrodes 14a; a die pad 12a smaller than a main surface of the semiconductor chip and bonded to a back side of the semiconductor chip; a sealing member 16 which seals the semiconductor chip with resin; a plurality of leads each comprising an outer terminal portion 12a exposed to a mounting surface of the sealing member and an inner lead portion 12 positioned inside the sealing member; and a plurality of bonding wires 15 which connect the plural electrodes of the semiconductor chip and the plural inner lead portions with each other electrically, wherein the inner lead portions of the plural leads are each bent in a direction away from the mounting surface of the sealing member.

With regards to claim 3, Park illustrates in fig. 4 the die pad 12a is exposed to a surface opposite to the mounting surface of the sealing member.

With regard to claim 5, a change in bond wire length is generally recognized as being within the level of ordinary skill in the art.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 6 and 7 are rejected under 35 USC § 103 (a) as being unpatentable over Park as applied to claim 1 above, and further in view of Izumitani et al. ("Izumitani") U.S. Patent No. 6,727,590. Park is discussed above, it does not show "a first wiring formed on a semiconductor substrate and connected electrically to a ground potential; a first insulating film formed on the first wiring; and a second wiring formed on the first insulating film and serving as a signal transmission line, the second wiring including a first region, a second region, and a third region, the second region of the second wiring being positioned between the first region and the third region, with bonding wires being connected to the first region of the second wiring, and the width of the second wiring in the second region being larger than the width thereof in the third region."

Izumitani illustrates in figure 1 a first wiring 9 formed on a semiconductor substrate; a first insulating film 10 formed on the first wiring; and a second wiring 13 formed on the first insulating film, the second wiring including a first region (connected to 71), a second region (connected to 5), and a third region (connected to 16), the second region of the second wiring

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being positioned between the first region and the third region, with bonding wires 75 being connected to the first region of the second wiring, and the width of the second wiring in the second region being larger than the width thereof in the third region. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the first and second wirings to have at least the enhanced reliability and stability at the connections (Izumitani col. 10, lines 2-3).

With regards to claims 2 and 6, the claimed “connected electrically to a ground potential” and “serving as a signal transmission line” is not considered to add any structure to the claimed device and is considered to be intended use of the device. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

With regards to claim 7, Park illustrates in fig. 4 the die pad 12a is exposed to a surface opposite to the mounting surface of the sealing member.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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Allowable Subject Matter

Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Cha (illustrates a package similar to the one claimed), Ishitsuka et al. (illustrates a lead bend within the resin). Sabyeying and Minamio et al. (illustrate a small chip bond).

Field of Search	Date
U.S. Class and subclass: 257/668, 675, 676	November 15, 2004
Other Documentation: None	N/A
Electronic data base(s): EAST (USPAT, US-PGPUB, JPO, EPO, Derwent, IBM TDB)	November 15, 2004

Any inquiry concerning this communication or earlier communications from an examiner should be directed to Primary Examiner Allan Wilson whose telephone number is (571) 272-1738. Examiner Wilson can normally be reached 7:00-4:00 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on (571) 272-1664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'a. Wilson', with a long horizontal flourish extending to the right.

Allan R. Wilson
Primary Examiner
November 15, 2004